Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

Class II.—CHLOROPHYCEÆ.

Order II.—*Confervoideæ.* Families.—5. Coleochætaceæ; 6. Œdogoniaceæ 7. Sphæropleaceæ; 8. Confervaceæ; 9. Pithophoraceæ.

Order III.—*Siphoneæ.* Families.—10. Vaucheriaceæ; 11. Botrydiaceæ.

Order IV.—*Protococcoideæ.* Families.—12. Volvocaceæ; 13. Protococcaceæ; 14. Palmellaceæ; 15. Chytridieæ.

Order V.—*Zygosporeæ.* Families.—16. Conjugatæ; 17. Desmidieæ.

Class III.—CYANOPHYCEÆ.

Order VI.—*Schizosporeæ.*—Families.—18. Nostocaceæ; 19. Chroococcaceæ.

It will be observed that the "families" are groups so named in the German sense, and are really co-ordinate with the Benthamian "orders" of ordinary phanerogamic botany. The six "orders" of the book are, perhaps, equivalent to the "Cohorts" of the higher plants as arranged by Bentham and Hooker. This want of co-ordination may confuse some of our American students whose ideas of botanical orders are derived from the common manuals of the flowering plants, in which "order" and "family" are synonymous.

The descriptions are good, both for genera and species. Analytical arrangements of the species are given in many instances where the genera are large. Measurements are freely resorted to in order to give an idea of the size of filaments, cells, spores, etc. The micromillimetre is used exclusively as the unit of measurement. The plates, while not artistic, are, apparently, quite accurate. Some of them are a little too diagrammatic, as, for example, some of the Spirogyræ. The Œdogonia are very well drawn, and are much better than in Cooke's "British Fresh-Water Algæ."

The author deserves the gratitude of American botanists for bringing out this book and placing it within the reach of all, the price being scarcely half of that of the corresponding English work referred to above.—*Charles E. Bessey.*

GENERAL NOTES.

GEOLOGY AND PALÆONTOLOGY.

Scott and Osborn on White River Mammalia.[1]—In this brochure of twenty pages the distinguished Professors Scott and Osborn, of Princeton, have given a preliminary account of their studies of fossils from the classic bad lands of the adjacent regions of Dakota and Nebraska collected by Mr. Samuel Garman for Professor Agassiz's museum in Cambridge. The most important results are as follows: 1. Determination of the foot-structure of Dinictis, which induces the authors to refer that genus to the Cryptoproctidæ. 2. Determination of the foot-structure of Hoplophoneus, which places the genus in another family,—the Nimravidæ,—in their opinion. 3. The discovery of the pollex in *Oreodon gracilis*, confirming as normal its occurrence in *O. culbertsoni*, previously recorded by Scott. 4. The description of the cranium of Hypisodus. 5. Discovery of the characters of three remarkable new species of Menodus. 6. Discovery of a new and remarkable genus of Hyracodontidæ, named by them Metamynodon, with its species *M. planifrons*. 7. The addition of two new species to Hyracodon.

---

[1] "Preliminary Account of the Fossil Mammals from the White River Formation contained in the Museum of Comparative Zoölogy, Cambridge, Mass." Bulletin of the Museum, vol. xiii. No. 5, August, 1887.

The discovery of Metamynodon is an important addition to knowledge, and it indicates an advanced point of a line of rhinoceroses with powerful canine teeth in the upper jaw, which first appears in the Eocene, in the genus Amynodon. The authors do not place these genera in the Hyracodontidæ, but propose for them a new family. I, however, think that they cannot be separated from the Hyracodontidæ. Hyracodon exhibits the canine teeth of the upper jaw, but in a reduced condition. In Amynodon, according to Scott, the mastoid bone is exposed on the outer side of the skull.

The true line of ancestry of the rhinoceroses does not come through the Hyracodontidæ, as I showed in 1881.[1] I then regarded the genus Cænopus (Cope) as the ancestral form of the family,[2] as I had already observed the Lophiodontid character in the skeleton of the species then known to me[3] (*C. mitis* Cope and *C. occidentalis* Leidy). Further observations to the same effect are made by Professors Scott and Osborn in the present paper. I have also noticed that the superior premolar teeth in Cænopus do not differ essentially from those of the Lophiodontidæ, and are totally different from those typical of Rhinocerontidæ and Hyracodontidæ.

The transverse crests are united at their inner extremities, as in Lophiodontidæ, and do not continue distinct to the end, as in the two families named, and as is especially shown to be the case in Amynodon and Metamynodon by Scott and Osborn. In some species of true rhinoceroses the transverse crests become confluent on wearing, in consequence of the development of angles or "crochets," but the crests are essentially distinct. In Aceratherium (type, *A. incisivum*) the superior premolars are of the true rhinoceros type. In the *Rhinoceros schleiermacheri* they are, on the other hand, constructed, as in Cænopus, on the Lophiodontid pattern. This species must be, therefore, separated from Ceratorhinus, where I have placed it. Brandt has already proposed for it the name Dihoplus.[1] It differs from Cænopus in the presence of a dermal frontal horn, according to Brandt. I therefore propose as new the family Cænopidæ, which is distinguished from the Lophiodontidæ by the absence of superior canine teeth. It embraces two genera,—viz., Cænopus, hornless; and Dihoplus, horned.

---

[1] Proceedings Amer. Philosophic. Soc., 1881, p. 380: "On the Systematic Arrangement of the order Periosodactyla."

[2] Loc. cit., p. 394.

[3] Bulletin U. S. Geolog. Survey Terrs., 1879, v. p. 235.

In Cænopus one of the premolars—the second—has the rhinocerotic structure, in the two species known. In distinguishing this genus I rely on the structure of the superior premolars rather than on that of the anterior foot. I am not able to substantiate my statement that there are but three digits in the manus of *C. mitis*, and Scott finds four in that of *C. occidentalis.* —*E. D. Cope.*

Marsh on New Fossil Mammalia.[2]—About three weeks after the reception of the paper of Professors Scott and Osborn, the number of the journal which contains this essay was received (October 1). We mention this fact, since the two papers partly cover the same ground, so far as relates to the perissodactyle family of the Menodontidæ. Professor Marsh gives some excellent wood-cuts taken from specimens derived from various parts of the West, to which he gives names, referring them to eight species. The first species is referred to the genus Bison, and it may be recognized by the cut, but not by the description. The second is the well-known and abundant *Aphelops fossiger* Cope, which receives the new name Aceratherium acutum. The remaining species are Menodontidæ, which Professor Marsh calls Brontotheriidæ, although Brontotherium has been shown several times to be undistinguishable from Menodus. Two species of the *Symborodon heloceras* group are referred to a new genus under the name of Brontops. This genus, if valid, will stand between Menodus and Symborodon. *Symborodon trigonoceras* Cope next appears under the name "Menops varians." The generic character as given does not differ from that of "Brontops," and the species is undescribed. The *Menodus platyceras* S. & O. next appears as "Titanops curtus" Marsh; no description is given for either genus or species. A second species is referred to the same genus, and a few of the characters are barely referred to. Finally, another new genus and species are named, but most insufficiently described, and no figure is given.

The publication of pictorial scientific papers is praiseworthy, but something more than pictures is necessary to make a paper scientific. And if one does not examine the easily-accessible types of the work of others, he is very apt to make publications which savor strongly of plagiarism. In any case, however, while a man may do what he pleases with his own money and take the consequences, it is a public scandal that a scientific bureau of the United States government should permit its money to be used in the way indicated in this paper and in others by the same author. —*E. D. Cope.*

---

[1] Brandt, "Tentamen Synopsis Rhinocerotidum." Mem. Acad. Imp. Sciences St. Petersburg, 1879, vol. xxvi. p. 48.

[2] "Notice of New Fossil Mammals;" by O. C. Marsh. American Journal Science and Arts, 1877, October, p. 323.

Scott on Creodonta.[1]—In this quarto brochure we have descriptions of six species, of which three are new, and of which three are illustrated by plates. A number of important additions to our knowledge of the osteology of the Creodonta are made. The most remarkable specimen described is a nearly complete skeleton of *Mesonyx obtusidens* Cope. From this Professor Scott has made a restoration, which gives an idea of the proportions of this curious animal. It was about the size of the black bear, and had a much less robust skeleton than that carnivore. The brain-case is very small, and the sagittal crest very high. The specimen proves that the genus Pachyæna differs from it in the presence of one more premolar or molar teeth, and of the entepicondylar foramen of the humerus, as well as in the inequality in the length of the limbs. A large new Mesonyx is described under the name of *M. uintaensis.* It is of much interest as coming from the Diplacodon beds, and it probably represents the last of its family.

The genus Didymictis is shown to possess the embracing zygapophyses of the lumbar vertebræ observed in Creodonta generally, thus confirming the reference to that group. The scaphoid and lunar bones of the carpus are shown to be distinct, confirming the reference of this genus to the same suborder. The characters of the foot and brain of Hyænodon are pointed out for the first time. The genus is shown to be five-toed, and plantigrade, and to possess an *os centrale carpi.* The brain is slightly convoluted, and of elongate form. Professor Scott believes the brain-cast figured by Gervais as that of this genus belongs to some other type. He thinks it probable that the scaphoid and lunar bones are united in some of the European species, while in others it is distinct, as in the American species. To the latter he believes De Blainville's name Taxotherium to be applicable.

Professor Scott closes by defining the suborder Creodonta, and by a discussion of its affinities. He believes the group to be distinct from both the Insectivora and the Carnivora.—*E. D. Cope.*

---

[1] "On some New and Little-Known Creodonts," by W. B. Scott. Extracted from the Journal of the Academy of Natural Sciences of Philadelphia, August 10, 1887.